**What Is Claimed Is:**

1. An apparatus of realizing a link access control protocol for IP multicasting/broadcasting (M/B) transmission in a mobile communication network, the apparatus comprising:

a packet data serving node (PDSN) for receiving an IP M/B packet from an IP M/B packet server or an Internet host and transmitting the IP M/B packet after converting into a transmission format;

a base station system including a base station controller/ packet controller function (BSC/PCF) and a base transmission station (BTS), the BSC/PCF receiving the IP M/B packet from the PDSN, converting the IP M/B packet into a cellular M/B request message and transmitting the cellular M/B request message into the BTS under the control, and the BTS receiving the IP M/B packet from the BSC, segmenting the IP M/B packet into a radio frame size and transmitting radio frames of IP M/B packet;

a mobile terminal for receiving and assembling the segmented radio frames of IP M/B packet, transmitted from the BTS by radio, to form the IP M/B packet; and

a M/B link access control means based upon a re-transmission request message for frame transmission confirmation on the radio link between the mobile terminal and the BTS/BSC.

2. The apparatus of realizing a link access control protocol in accordance with claim 1, the BTS/BSC comprises:

a LAC sub-layer including a link access controller (LAC) for storing the IP M/B packet, received from the BSC/PCF, into an internal buffer, and segmenting the IP M/B packet into a radio packet frame size necessary to a cellular IP multicast MAC protocol (CIBP); and

a medium access control (MAC) sub-layer for transmitting a CIBP service data unit (SDU), received from the CIBP at a lower layer of the LAC, into the mobile terminal via a physical layer.

3. The apparatus of realizing a link access control protocol in accordance with claim 2, wherein the LAC allocates sequence numbers to the radio packet frames of the segmented IP M/B packet, and transfers the CIBP SDU into the CIBP.

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4.    The apparatus of realizing a link access control protocol in accordance with claim 2, wherein the LAC transmits the sequence number of a CIBP SDU corresponding to the re-transmission request message upon receiving the re-transmission request message, when receiving the re-transmission request message by using a signaling link access controller for receiving the re-transmission request message of a specific radio packet frame from the mobile terminal.

5.    The apparatus of realizing a link access control protocol in accordance with claim 2, wherein the LAC transmits a specific CIBP SDU, deletes the CIBP SDU if a re-transmission request message is not received when a radio packet frame time has lapsed after transmitting the CIBP SDU to process a new IP M/B packet.

6.    The apparatus of realizing a link access control protocol in accordance with claim 1, the mobile terminal comprises:
    an MAC sub-layer with a physical layer for receiving the radio packet frames transmitted from the BTS, and a cellular IP multicast MAC protocol (CIBP) for transferring the received radio packet frames as a CIBP SDU into an upper layer; and
    an LAC sub-layer for assembling data in the CIBP SDU transferred from the MAC sub-layer to form the IP M/B packet and transferring the IP M/B packet into an upper data layer.

7.    The apparatus of realizing a link access control protocol in accordance with claim 6, wherein the LAC inspects if the transferred CIBP SDU is received in the unit of the IP M/B packet.

8.    The apparatus of realizing a link access control protocol in accordance with claim 7, wherein the LAC transmits the re-transmission request message for the sequence number of the CIBP SDU, which is not received, via a signaling LAC into an LAC of the BTS.

9.    The apparatus of realizing a link access control protocol in accordance with claim 1, wherein each of the mobile terminal and the BTS/BSC comprises a signaling

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LAC for transmitting the re-transmission request message in processing transmission/receiving of the IP M/B packet.

10. A method of realizing a link access control protocol for IP M/B packet transmission in a mobile communication network, the method comprising the steps of:

receiving by an LAC of a BTS/BSC an Internet IP M/B packet transferred via a BSC/PCF from an Internet host and a multicasting server, storing the Internet IP M/B packet into an internal buffer, and segmenting the Internet IP M/B packet into a radio packet frame size;

adding sequence numbers to the segmented radio packet frames and transmitting a CIBP SDU into a mobile terminal; and

assembling, in the mobile terminal, the CIBP SDU for the received radio packet frames and forming the IP M/B packet, and transferring the formed IP M/B packet into an upper layer.

11. The method of realizing a link access control protocol in accordance with claim 10, wherein the LAC of the mobile terminal inspects receiving in the unit of the IP M/B packet to transmit a re-transmission request message about a SDU having a sequence number corresponding to the CIBP SDU, which is not received, into the BTS.

12. The method of realizing a link access control protocol in accordance with claim 11, wherein the BTS/BSC confirms whether the re-transmission request message is received from the mobile terminal via a signaling LAC, and re-transmits the SDU about the sequence frame into the mobile terminal if the re-transmission request message is received.

13. The method of realizing a link access control protocol in accordance with claim 12, further comprising the step of canceling the CIBP SDU of the stored IP M/B packet and processing a new received IP M/B packet if the re-transmission message is not received in a designated time after a specific packet is transmitted from the mobile terminal into the signaling LAC.

14. The method of realizing a link access control protocol in accordance with

claim 10, wherein the size of the radio packet frame segmented in the BTS is variably changed according to channel conditions.